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| PRE-APPEAL BRIEF REQUEST FOR REVIEW | | Docket Number (Optional) SCS-124-1144 |
| | Application Number 10/565,017 | Filed January 19, 2006 |
| | First Named Inventor MCNIE | |
| | Art Unit 2883 | Examiner M. El Shammaa |

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.



Signature
Stanley C. Spooner

I am the

Applicant/inventor

Assignee of record of the entire interest. See 37 C.F.R. § 3.71. Statement under 37 C.F.R. § 3.73(b) is enclosed. (Form PTO/SB/96)

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Date
April 14, 2008

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.*

*Total of 1 form/s are submitted.

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STATEMENT OF ARGUMENTS IN SUPPORT OF
PRE-APPEAL BRIEF REQUEST FOR REVIEW

The following listing of clear errors in the Examiner's rejection and his failure to identify essential elements necessary for a *prima facie* basis of rejection is responsive to the second non-final Official Action mailed January 14, 2008 (Paper No. 20080102)

Error #1. The Examiner continues to ignore the plain language of independent claim 1

As Applicants have previously noted (page 8, Amendment filed November 15, 2007), the Examiner errs in the application of *Kropa v. Robie*, 88 USPQ 478, 481 (CCPA 1951) and ignores the teaching of the subsequent decision *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 9 USPQ2d 1962, 1966 (Fed. Cir 1989). The Examiner misapplies *Kropa* because he ignores the *Kropa* requirement that the preamble must be considered if "the preamble served to further define the structure of the article produced." In this instance, the first and second optical waveguides and the "at least one moveable reflective element" and their claimed interrelationship could comprise multiple devices, one of which is a "variable optical attenuator device." Thus, the preamble of independent claim 1 clearly indicates the manner in which the recited elements and their recited interrelationships are to be combined. As a result, the preamble does indeed provide "life, meaning, and vitality to the claim" as set out in *Kropa*,

Moreover, *Corning* specifically states that "[a]ny terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation." Thus, the claimed elements must be combined not only with the claimed interrelationship, but in a manner so as to provide a "variable optical attenuator device." The Examiner's ignorance of the clear claim limitations provided in the preamble is reversible error (see MPEP Section 2111.02).

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Error #2. The prior art fails to teach any "variable optical attenuator device"

A "variable optical attenuator device" is discussed on page 1, second paragraph of Applicants' specification and is a device "to enable the power of an optical beam to be reduced in a controlled manner." This definition is well known to those of ordinary skill in the art, but has been included in Applicants' specification as originally filed. The Examiner has failed to demonstrate how or where any prior art device includes the combination of elements and interrelationships which are assembled in the manner of a variable optical attenuator device.

Reviewing the related Jenkins and Devereux patents (the Jenkins patent is resultant from the US application claiming priority through PCT/GB97/00166 which in turn claims priority from GB Application No. 9601645.6 from which the Devereux patent issued), they disclose in their respective Figures 3, a "tunable mode converter 28." However, there is no disclosure that that the mode converter provides any attenuation of an output signal or could be modified to be a "variable optical attenuator device."

A review of the discussion of the Jenkins/Devereux device will show that a fundamental mode propagating in guide 320 towards mirror 350 is reflected from the mirror and coupled back into the guide 320. While the mode structure in Jenkins is altered slightly depending upon the tilt of the mirror 350, the total power is not affected, i.e., the signal is not attenuated. As a result, there can be no attenuation when the light exits and then re-enters waveguide 320.

Figures 4 and 5 of Jenkins/Devereux show that the sum of the normalized modulii of the modes excited by the reflected light still add up to 1 for any given mirror tilt angle. While tilting of the mirror (a maximum mirror tilt of 10 milliradians equates to roughly $\frac{1}{2}$ of a degree) is enough to excite higher order modes, it quite clearly does not give rise to any attenuation. As a result, the Jenkins/Devereux references simply do not disclose or suggest a "variable optical attenuator device." Importantly, Jenkins and Devereux teach essentially constant power output

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(even though in differing order modes) and this teaching would lead one of ordinary skill in the art away from the creation of a variable optical attenuator device as claimed.

Accordingly, newly cited Jenkins and previously applied Devereux does not support any rejection of independent claim 1 and claims dependent thereon under 35 USC §102 as being anticipated.

Error #3. The Examiner fails to indicate how or where the prior art teaches a variable reflective element which "determines the efficiency with which the optical beam is coupled into the second optical waveguide"

Applicants' independent claim 1, in addition to reciting a "variable optical attenuator device" in the preamble, also recites as one of the elements a "moveable reflective element." That element is arranged in conjunction with the first optical waveguide and the second optical waveguide so that "the orientation of the at least one moveable reflective element determines the efficiency with which the optical beam is coupled into the second optical waveguide." (emphasis added). It is well known that the efficiency of coupling is related to the attenuation, i.e., the less efficient the coupling the more attenuation of the optical beam.

The above discussion of the Jenkins and Devereux references clearly establishes that neither Jenkins nor Devereux gives rise to attenuation of the optical beam. Thus, the Jenkins/Devereux device specifically teaches away from any orientation of the moveable reflective element such that the orientation determines the efficiency with which the optical beam is coupled into the second optical waveguide.

The fact that the structure of Applicants' claimed "at least one moveable reflective element" and the claimed interrelationship ("determines the efficiency with which the optical beam is coupled into the second optical waveguide") clearly establishes a different structural combination from that disclosed in Jenkins/Devereux. Because Jenkins/Devereux is a different

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combination of elements achieving a different purpose, it cannot support a rejection of independent claim 1 or claims dependent thereon under 35 USC §102.

Error #4. The Examiner fails to identify all claimed elements and interrelationships in the single Jenkins reference

As is well known, all claimed elements and claimed interrelationships between elements must be shown in a single reference to support a rejection under §102(b). As noted in error #1 above, the Examiner has improperly construed the claim and in error #s 2 and 3 has not demonstrated that the properly construed claim elements and interrelationships are present in the Jenkins reference. Absent both at least one claimed element and one claimed interrelationship between elements, Jenkins fails to anticipate independent claim 1 or claims dependent thereon.

Error #5. The Examiner fails to demonstrate where all claimed elements and interrelationships are disclosed amongst the several prior art references and therefore there is no basis for an obviousness rejection under §103

As noted in error #1, the Examiner has improperly construed claim 1 and as noted in error #s 2 and 3, even if both prior art references are considered, the prior art fails to disclose the limitations of Applicants' independent claim. Thus combined in the manner suggested by the Examiner, there can be no *prima facie* case of obviousness because neither Jenkins nor Chang teach Applicants' claimed variable optical attenuator device or the claimed moveable reflective element having an orientation that "determines the efficiency with which the optical beam is coupled into the second optical waveguide."

Error #6. The Examiner errs in failing to provide any "reason" or "rationale" for combining references

In its recent decision, the U.S. Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (April 2007), held that "[t]o facilitate review, this analysis [of the rationale for combining] should be made explicit." *Id.* at 1396.

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The Examiner has failed to provide any such basis other than to say one would use a MEMS component to alter the path of an optical signal and change the coupling between optical channels. This has nothing to do with the claimed variable optical attenuator device or the combination of elements to provide a variable optical attenuator device.

SUMMARY

The Examiner has clearly failed to properly construe claim 1 and its requirement that the elements be combined to form a variable optical attenuator (VOA) device. The Examiner has not indicated how any prior art device discloses or even relates to a VOA device. The Examiner fails to indicate how any prior art device attenuates the signal rather than maintaining the strength of the signal and merely changing mode. Jenkins doesn't disclose all claimed structures and structural interrelationships and therefore does not support a §102 rejection. In fact, even the combination of prior art references does not teach all of the claimed elements and interrelationships. Moreover, even if they did, there is no reason or motivation to combine the references in the manner suggested. Accordingly, there can be no *prima facie* case of obviousness under §103.

As a result of the above, there is simply no support for the rejection of Applicants' independent claim 1 or claims dependent thereon under 35 USC §102 and/or §103. Applicants respectfully request that the Pre-Appeal Panel find that the application is allowed on the existing claims and prosecution on the merits should be closed.